CLAIMS

1. A digital broadcast receiver, comprising:

receiving means (1,2) for demodulating and decompressing received video data and outputting pixel data; and

determining means (4, 24, 34) for detecting characteristic of the video data received by said receiving means, and determining whether said video data is video data in accordance with a stereoscopic broadcasting method, in response to the result of detection.

2. The digital broadcast receiver, comprising:

receiving means (1,2) for demodulating and decompressing received video data and outputting pixel data; and

determining means (4) for determining, based on said pixel data output from said receiving means (1,2), whether said video data is video data in accordance with a stereoscopic broadcasting method.

3. The digital broadcast receiver according to claim 2, wherein said video data is first said video data in accordance with the stereoscopic broadcasting method or second said video data in accordance with a broadcasting method different from said first video data; and

said determining means (4) determines whether said received video data is the first said video data or the second said video data.

4. The digital broadcast receiver according to claim 3, wherein

said video data includes said pixel data arranged in a matrix in horizontal and vertical directions; and

the first said video data constitute said arrangement by a first block (B1, B2) including said pixel data for the right eye and, a second block (B1, B2) including said pixel data for the left eye.

5. The digital broadcast receiver according to claim 4, wherein said determining means (4) includes

storing means (61) for receiving from said receiving means (1,2) and storing, said pixel data of a specific area of said first block and said pixel data of a specific area of said second block corresponding to said specific area of said first block, and

processing means (60) for comparing said pixel data of said specific area of said first block stored in said storing means (61) with said pixel data of said specific area of said second block stored in said storing means (61) for determining and outputting whether received said video data is the first said video data or the second said video data.

6. The digital broadcast receiver according to claim 2, wherein said video data is reproduced and displayed in accordance with non-interlace scanning method.

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7. A display apparatus compatible with a plurality of broadcasting methods, comprising:

separating means (33) for separating and outputting a synchronizing signal from a received video signal;

determining means (34) for determining, based on said synchronizing signal output from said separating means (33), whether said video signal is said video signal in accordance with a stereoscopic broadcasting method; and

display means (51) for displaying to the user, based on the result of determination by said determining means (34), whether said broadcasting method of said received video signal is said stereoscopic broadcasting method.

8. A display apparatus receiving at an input a first video signal or a second video signal, and reproducing and displaying on a monitor in accordance with a broadcasting method, comprising:

separating means (33) responsive to reception of said first video signal, for separating and outputting a synchronizing signal from said input first video signal;

determining means (34) responsive to said synchronizing signal from said separating means (33), for determining based on said synchronizing signal, whether the signal to be reproduced and displayed on said monitor is said first video signal in accordance with a first broadcasting method or said first video signal in accordance with a second broadcasting method different from said first broadcasting method, and responsive to non-reception of said synchronizing signal from said separating means, for determining that the signal to be reproduced and displayed on said monitor is said second video signal in accordance with a broadcasting method different from said first and second broadcasting methods;

display means (51) for displaying to the user, based on the result of determination by said determining means (34), said broadcasting method of said first video signal or said second video signal to be reproduced and displayed on said monitor; and

reproducing and display means (36) based on said broadcasting method determined by said determining means for reproducing and displaying said first video signal or said second video signal on said monitor.

9. The display apparatus according to claim 8, wherein

said first video signal in accordance with said first broadcasting method includes a right eye video signal obtained by interlace scanning method and a left eye video signal obtained by interlace scanning method;

said first video signal in accordance with said second broadcasting method is a video signal obtained by non-interlace scanning method; and

said first broadcasting method is a stereoscopic broadcasting method.

10. The display apparatus according to claim 8, wherein

said synchronizing signal is a vertical synchronizing signal; and

said vertical synchronizing signal in said first video signal in accordance with said first broadcasting method and said vertical synchronizing signal in said first video signal in accordance with said second broadcasting method have mutually different frequencies.

11. The display apparatus according to claim 9, wherein
said determining means (34) includes
reference clock generating means (40) for generating clocks,
count means (41) for counting said generated clocks,
latch means (42) for latching count value counted by said count means (41),

processing means (44) obtaining said count value from said latch means (42) for determining, based on said count value, whether the video signal is in accordance with said first broadcasting method or said second broadcasting method, and

control signal generating means (43) responsive to reception of said synchronizing signal from said separating means (33) for generating a control signal to cause said latch means (42) latch said count value counted by said count means (41), cause said count by said count means (41) to reset said count and cause said processing means (44) to take said count value latched by said latch means (42); and

said processing means (44) compares the count value obtained from said latch means (42) with a prescribed reference value, for determining, based on the result of said comparison, whether said synchronizing signal is in accordance with said first broadcasting method or said second broadcasting method, and when said count value is not received, determines that said synchronizing signal is in accordance with said broadcasting method different from first and second broadcasting methods.

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12. The display apparatus according to claim 10, wherein
said determining means (34) includes
reference clock generating means (40) for generating clocks,
count means (41) for counting said generated clocks,
latch means (42) for latching count value counted by said count means (41),

processing means (44) obtaining said count value from said latch means (42) for determining, based on said count value, whether the video signal is in accordance with said first broadcasting method or said second

broadcasting method, and

control signal generating means (43) responsive to reception of said synchronizing signal from said separating means (33), for generating a control signal to cause said latch means (42) latch said count value counted by said count means (41), cause said count means (41) to reset said count and cause said processing means (44) to take said count value latched by said latch means (42); and

said processing means (44) compares the count value obtained from said latch means (42) with a prescribed reference value for determining, based on the result of said comparison, whether said synchronizing signal is in accordance with said first broadcasting method or said second broadcasting method, and when said count value is not received, determines that said synchronizing signal is in accordance with said broadcasting method different from said first and second broadcasting methods.

13. The display apparatus according to claim 11, wherein

said reference value is determined from frequency of said vertical synchronizing signal in said first video signal in accordance with said first broadcasting method, frequency of said vertical synchronizing signal in said first video signal in accordance with said second broadcasting method and repetition frequency of said clocks.

14. The display apparatus according to claim 12, wherein

said reference value is determined from frequency of said vertical synchronizing signal in said first video signal in accordance with said first broadcasting method, frequency of said vertical synchronizing signal in said first video signal in accordance with said second broadcasting method and repetition frequency of said clocks.

15. A digital broadcast receiver compatible with a plurality of stereoscopic display methods, comprising:

receiving means (1,2) for demodulating and decompressing received

video data: and

formatting means (25, 27) for formatting a signal output from said receiving means (1,2) based on one stereoscopic display method selected by a user.

16. A digital broadcasting receiver compatible with a plurality of display methods including a plurality of stereoscopic display methods, comprising:

receiving means (1,2) for demodulating and decompressing received video data; and

formatting means (25, 27) formatting a signal output from said receiving means; wherein

said formatting means (25, 27) performs said formatting in accordance with a stereoscopic display method selected by a user when said received video data is video data in accordance with a stereoscopic broadcasting method, and performs said formatting in accordance with a display method in accordance with the broadcasting method of said received video data regardless of said users selection, when said received video data is different from the video data in accordance with the stereoscopic broadcasting method.

17. A digital broadcast receiver compatible with a plurality of display methods including a plurality of stereoscopic display methods, comprising:

receiving means (1,2) for demodulating and decompressing received video data;

determining means (24) for determining whether said received video data is video data in accordance with a stereoscopic broadcasting method or video data different from the stereoscopic broadcasting method;

selecting means (27) operated by a user for selecting one stereoscopic display method among said plurality of stereoscopic display methods;

formatting means (25) for formatting a signal output from said receiving means; and

control means (10) for determining, based on the result of determination by said determining means (24) and selection by said selecting means (27), display method for reproducing and displaying said received video data, and controlling formatting by said formatting means (25).

18. The digital broadcast receiver according to claim 17, wherein said video data in accordance with said stereoscopic broadcasting method has one image plane including an image plane for a right eye video image obtained by interlace scanning and an image plane for a left eye video image obtained by interlace scanning method; and

said stereoscopic display method is a first stereoscopic display method providing stereoscopic display by video images of one channel, or a second stereoscopic display method providing a stereoscopic display by video images of two channels.

19. The digital broadcast receiver according to claim 18, wherein said display method determined by said control means (10) is said first stereoscopic display method or said second stereoscopic display method selected by said user when said determining means (24) determines that the video data is in accordance with said stereoscopic broadcasting method, and the display method is a display method other than said first and second stereoscopic display methods, regardless of said user's selection, when said determining means determines that the video signal is not in accordance with said stereoscopic broadcasting method.

20. The digital broadcast receiver according to claim 18, wherein said formatting means (25) includes

first storing means (12) for storing an output of said receiving means (1,2) and from which said stored data is read under the control of said control means (10),

second storage means (13) for storing an output of said receiving means (1,2), and from which said stored data is read under the control of

said control means (10), different from said first storing means (12),

input switching means (11) for inputting an output of said receiving means (1,2) to said first storing means (12) or said second storing means (13) under the control of said control means (10),

level data output means (14, 15) for generating and outputting level data,

first data switching means (16) for switching between and outputting the data read from said first storage means (12) and said level data output from said level data output means (14, 15) under the control of said control means (10), and

second data switching means (17) for switching between and outputting the data read from said second storing means (13) and said level data output from said level data output means (14, 15) under the control of said control means (10);

said first data switching means (16) outputs data corresponding to said video images of said one channel corresponding to said first stereoscopic display method or data corresponding to said video images of either one of said two channels corresponding to said second stereoscopic display method, or data corresponding to said display method different from said first and second stereoscopic display methods; and

said second data switching means (17) outputs data corresponding to said video image of the other one of said video images of said two channels corresponding to said second stereoscopic display method.

21. The digital broadcast receiver according to claim 20, wherein said first storage means (12) and said second storing means (13) are FIFO memories.

22. The digital broadcast receiver according to claim 16, wherein said video data corresponding to said stereoscopic broadcasting method includes an image plane for a right eye video image obtained by interlace scanning method and an image plane of a left eye video image obtained by interlace scanning method.

23. A video data recording apparatus, comprising:

video signal processing means (123a, 123b, 120) for forming video data of one channel by arranging an image corresponding to a first video signal and an image corresponding to a second video signal different from each other, divided into upper and lower portions of one image plane;

compressing means (122) for compressing said video data; and

recording means (129) for recording said compressed video data on a recording medium.

24. A video data reproducing apparatus for reproducing from a recording medium, video data of one channel formed by arranging an image corresponding to a first video signal and an image corresponding to a second video signal different from each other divided into upper and lower portions of one image plane, compressed and recorded, comprising:

reproducing means (29) for reproducing said compressed video data from said recording medium;

decompression means (2) for decompressing said reproduced compressed video data; and

video recovery means receiving said decompressed video data for recovering said first video signal and said second video signal.

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25. A video data recording and reproducing apparatus, comprising:

video signal processing means (123a, 123b, 120) for forming video data of one channel by arranging an image corresponding to a first video signal and an image corresponding to a second video signal different from each other divided into upper and lower portions of one image plane;

compressing means (122) for compressing said video data;

recording means (29, 129) for recording said compressed video data on a recording medium;

reproducing means (29, 129) for reproducing said compressed video data input from said recording medium;

decompressing means (2) for decompressing said reproduced compressed video data; and

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video recovery means (5, 25) receiving said decompressed video data for recovering said first video signal and said second video signal.